

# Assessing Staff's and Stroke Patients' Experiences in 8 Hospitals in Greece: Results from a Prospective Multi-Center Study (“SUN4Patients”)

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**Abstract.** To assess stroke patient-reported experiences and hospital staff experiences, during hospital stay. Methods: Stroke patient-reported experiences (n=387) were recorded using the translated and culturally adapted NHS-Stroke Questionnaire into Greek and staff experiences (n=236) were investigated using the Compassion Satisfaction and Burnout subscales of the ProQOL questionnaire. Results: Staff's mean compassion satisfaction score was 39.2 (SD=6.3) and mean burnout score was 24.3 (SD=5.6). Only 38.5% of the staff stated that there is smooth cooperation with healthcare professionals of other specialties/disciplines.

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Personnel working in an NHS Hospital was more satisfied and less burned-out when compared to personnel working at a University Hospital ( $p=0.02$  and  $p<0.001$ , respectively). Mean total patient-reported experiences score was 81.9 ( $SD=9.5$ ). Bivariate analysis revealed statistically significant differences for total patient-reported experiences among the eight study hospitals ( $p>0.001$ ). Conclusions: Health policy planners and decision-makers must take into consideration the results of such self-reported measures to establish innovative techniques to accomplish goals such as staff-specialization, continuous training and applying formal frameworks for efficient cooperation amongst different disciplines.

**Keywords.** Stroke Patient Experiences, Staff Experiences, Stroke Care

## 1. Introduction

The evaluation of stroke patients' and health professionals' working in stroke clinics/centers experiences has been an emerging research topic recently. However, most of the studies conducted so far are qualitative using open interviews and semi-structured questionnaires. Regarding stroke patients, the main focus has been on assessing the quality of medical and nursing care they receive during their hospitalization and rehabilitation [1]. In regards to the respective staff, work satisfaction, burnout, engagement and personal perceptions are more often studied [2, 3, 4, 5]. In order to enhance patients' and staff experiences, the use of universally accepted validated quantitative tools may prove useful to stir health policy and decision making towards improving quality of care. The aim of this study was to assess stroke patient-reported and hospital staff's experiences in 8 Hospitals in Greece, in the context of the SUN4Patients prospective multi-center study.

## 2. Methods

A cross-sectional study was conducted including 387 stroke patients, who were admitted in eight NHS and University Hospitals in Greece and were interviewed via telephone one month following hospital discharge. Physicians ( $n=139$ ) and nursing personnel ( $n=97$ ), working in the SUN4Patients study centres, were recruited to participate in the staff experiences survey. The translated and adapted into the Greek language NHS-Stroke Questionnaire [6] composed of items on diagnosis, hospital admission, medical and nursing staff, the provided care during hospitalization and hospital discharge was used. The Compassion Satisfaction and Burnout subscales of the ProQOL questionnaire were used to measure staff's experiences while caring for stroke patients. Descriptives were calculated using absolute and relative frequencies and mean ( $SD$ ) and/or median ( $IR$ ). Bivariate analyses were conducted and multivariate linear regression analyses were performed to control for confounding effects (for staff experiences: demographics, type of hospital, working conditions and resources, level of cooperation, etc. and for patient experiences: demographics, hospital type, health status, days of hospitalization, etc.). The research protocol was approved by the Bioethics Committee of the NKUA Nursing Department, and the Scientific Committees of the study centres/hospitals. Patients and hospital staff gave their informed consent, adhering to the EU 2016/679 GDPR provisions and the Declaration of Helsinki.

### 3. Results

Hospital staff's mean age was 39.2 years old (SD=9.7). Staff was taking care of stroke patients for an average of 7.73 years (SD=8.1), the median number of stroke in-patients who were treating on a monthly basis was 10 (IR=11), while 25.4% were employed in a NHS and 74.6% at a University Hospital/Clinic. Mean compassion satisfaction score was 39.2 (SD=6.3) (max=50) and mean burnout score 24.3 (SD=5.6) (max=50). More than half of the participants (57%) stated that there is almost always the possibility to refer the patient directly to rehabilitation following discharge. More than 1 out of 5 (22.9%) and almost 1/3 participants stated that nursing and medical staff are numerically adequate, respectively, while 32.6% and 57.3% stated that nursing and medical staff are knowledge-and-skills-wise equipped to care for stroke patients, respectively. Finally, only 38.5% stated that there is smooth cooperation with other specialties/disciplines towards effective management of stroke patients.

Patients' mean age was 73.3 years old (SD=14.4) and 29.5% were admitted in a NHS Hospital. Mean total patient-reported experiences score was 81.9 (SD=9.5) (max=100). Almost 2/3 of the participants (64.9%) showed absence of symptoms before admission, while only 26.1% showed absence of symptoms one-month later. Also, 66.9% and 65.9% of the participants stated that the level of communication with nursing and medical staff, respectively, was full and comprehensive and less than half of the participants stated that nursing staff was numerically adequate at all times/almost at all times. Almost 2/3 stated that nursing staff (63.3%) and medical staff (68%) had sufficient knowledge and skills to take care of stroke patients and almost 4/5 received the necessary instructions on life-style changes, medication and adverse-events.

**Table 1:** Comparison between study scores and hospitals

Hospitals	Health Personnel		Stroke Patients
	Mean compassion satisfaction score (max=50) (SD)*	Mean burnout score (max=50) (SD) *	Mean experience score(max=100) (SD) *
Hospital 1-UH/C	37.7 (5.4)	24.0 (5.0)	84.3 (5.9)
Hospital 2-UH/C	39.8 (6.2)	23.7 (6.1)	79.7 (11.7)
Hospital 3-UH/C	38.8 (7.6)	26.3 (5.1)	84.0 (9.1)
Hospital 4-UH/C	39.1 (5.0)	25.2 (3.7)	76.9 (14.1)
Hospital 5-NHS	41.4 (4.7)	22.2 (4.8)	81.7 (5.8)
Hospital 6-NHS	44.5 (4.3)	17.1 (4.4)	82.0 (8.6)
Hospital 7-UH/C	36.9 (8.0)	27.4 (6.4)	78.3 (10.5)
Hospital 8-UH/C	34.8 (5.4)	28.0 (3.0)	82.3 (8.2)

UH/C=University Hospital/Clinic, NHS=NHS Hospital, \*ANOVA test, p-value<0.001

According to the bivariate analysis (Table 1) and multivariate model results (Table 2), personnel working in NHS Hospitals was more satisfied and less burned-out compared to those working at a University Hospitals/Clinic (p=0.02 and p<0.001, respectively).

**Table 2:** Multivariate Analysis Results for Staff Experiences (only significant relations are shown, a=0.05)

Characteristic /Independent Variable	Dependent variable	
	Compassion satisfaction score ( $R^2=0.180$ ) b / 95% CI / P value	Burnout score ( $R^2=0.250$ ) b / 95% CI / P value
NHS in relation to University Hospital	2.2/0.3-4.1/0.02	3.6/2.03-5.2/<0.001
Years of experience in stroke patients' care	0.1/0.001-0.2/0.049	-0.2/-0.3-0.04/0.013
Possibility to refer the patient directly to a rehabilitation following discharge	1.4/0.37-2.41/0.007	-0.93/-1.76-0.09/0.029
Quality of cooperation	1.3/0.16-2.52/0.026	-1.8/-2.8--0.85/<0.001

More years of experience in managing stroke patients was related to increased satisfaction and decreased burnout ( $p=0.049$  and  $p=0.013$ , respectively), as well as for the possibility to refer the patient directly to a rehabilitation centre following discharge ( $p=0.007$  and  $p=0.029$ , respectively) and the quality of cooperation with health professionals of other specialties/disciplines ( $p=0.026$  and  $p<0.001$ , respectively). Bivariate analyses revealed that increased age, days of hospitalization in an ICU and mRS (Modified Rankin Score) scores (prior to admission and at one-month follow-up) were correlated to decreased total patient-reported experiences score. Statistically significant differences were found among the eight study hospitals ( $p>0.001$ ) (Table 1), but no difference between NHS Hospitals and University Hospitals/Clinics ( $p=0.948$ ).

#### 4. Discussion

According to the results of the study, a significant deviation was observed between patients' and staff's views on numerical and scientific adequacy of the nursing staff in stroke care. Patients were more satisfied in comparison to health professionals. This finding could be interpreted either by the customary trusting relationship between patients and their "carers", or by the professionals' acknowledgement for more specialized training. Higher compassion satisfaction was noted for NHS Hospitals' staff, a trait that could be explained by the better cooperation with health professionals of other specialties/disciplines. Putting emphasis on staff professional development in stroke care, as well as improving cooperation amongst them high-quality stroke care will be succeeded [7, 8].

#### 5. Conclusions

Health policy planners and decision makers must take into consideration the results of such self-reported measures, so as to establish innovative techniques to accomplish goals such as staff-specialization, continuous training and applying formal frameworks for efficient cooperation amongst different disciplines, in favor of improving patients' and health professionals' experiences and, ultimately, the quality of the provided care to stroke patients.

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